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RF/RMRS-97-046

Reconnaissance Level Characterization Plan

For The 779 Cluster Project

Rocky Mountain Remediation Services, L.L.C.

December 1997

12/24/97

RECONNAISSANCE LEVEL CHARACTERIZATION PLAN FOR THE 779 CLUSTER PROJECT

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ACRONYMS

AHA	Activity Hazard Analysis
Am	Americium
ALARA	As-Low-As-Reasonably-Achievable
APO	Analytical Projects Office
Be	Beryllium
DOE	U S Department of Energy
DOP	Decommissioning Operations Plan
DQO	Data Quality Objective
EPA	U S Environmental Protection Agency
HASP	Health and Safety Plan
HEPA	high efficiency particulate air
HVAC	heating, ventilation, air-conditioning
PCB	Polychlorinated biphenyl
PPE	Personnel Protective Equipment
Pu	Plutonium
QA	Quality Assurance
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCP	Reconnaissance Level Characterization Plan
RLCR	Reconnaissance Level Characterization Report
RWP	Radiological Work Permit
SEG	Scientific Ecology Group
SEM	Scanning Electron Microscope
SNM	Special Nuclear Materials
ft^2	square foot
TLV	Threshold limit value
U	Uranium
WMP	Waste Management Plan

RECONNAISSANCE LEVEL CHARACTERIZATION PLAN FOR THE 779 CLUSTER PROJECT

1.0 INTRODUCTION

Due to the change in mission of the Rocky Flats Environmental Technology Site (RFETS) from the production of nuclear components to environmental cleanup and shutdown, Building 779 and its associated facilities have no identified mission after Fiscal Year 1996 The 779 Cluster is being decommissioned to reduce operating costs and to eliminate hazards within the Cluster's buildings The 779 Cluster consists of Buildings 727, 729, 779, 780, 780A, 780B, 782, and 783 through 787

1 1 PURPOSE

The purpose of this characterization plan is to outline the sampling requirements and methodology for characterization of the 779 Cluster The overall characterization effort identifies the type, quantity, condition, and location of radioactive and hazardous materials which are, or which may be, present as residual contamination in the subject facilities The compilation of facility information contained herein, in conjunction with the 779 Cluster project files established during this investigation, brings together pertinent data from various sources to serve as a practical reference for project use during the decontamination and decommissioning efforts

1 2 SCOPE

This document was prepared using the draft Decommissioning Characterization Protocols and uses the Data Quality Objective (DQO) process identified therein to determine sampling/survey requirements The information presented in this plan specifically pertains to the 779 Cluster, the review of historical records and the collection of process knowledge information covers the operational time period from original construction to present of the facility

The scope of this document is to gather sufficient characterization information to develop the 779 Cluster Reconnaissance Level Characterization Report (RLCR) Additionally, the information may be used as input to the Health and Safety Plan (HASP) and the Waste Management Plan (WMP) The information gathering effort will include document and historical reviews, walk-downs and media sampling Media sampling will include building materials, liquids and system components Detailed sampling requirements are outlined in Section 3 0 and Appendix B

1.3 DATA LIFE CYCLE

There are three aspects of the data life cycle that apply to the characterization process Planning, Implementation, and Assessment To produce a usable document (i e , Reconnaissance Level Characterization Report) each of the three must be applied in sequence

The planning process uses the data quality objectives (See Section 2 1) to determine data needs, quality assurance requirements and survey design This document is the initial planning phase for characterization activities

The second phase of the characterization process is implementation This phase includes the assessment of historical documentation concerning the operations of the facilities and any associated chemical or radiological inventory Additionally, a physical survey is performed using the design as outlined during the planning phase

The final phase of the data life cycle is the assessment of information gathered during the implementation phase The data is evaluated against the DQO criteria and a report, the Reconnaissance Level Characterization Report, is developed that outlines results and conclusions

The following section contains the results of the planning process for gathering the Reconnaissance Level Characterization data necessary to support the 779 Cluster Decommissioning Project

2.0 PLANNING

To ensure the collection of sufficient usable data, it is necessary to formulate the DQOs for sampling and survey events For this plan, the DQOs were defined by answering questions designed to utilize a modified version of the United States Environmental Protection Agency (EPA) QA/G-4 seven step process for a decommissioning project The results of this modified DQO process are presented in the following sections

2.1 CHARACTERIZATION OBJECTIVES

This plan was developed to specify the data collection requirements necessary to provide a baseline of information for use during decommissioning activities The information obtained by implementing this plan will be compiled into the RLCR Ultimately, the data may be used to determine the risks to the environment and personnel associated with 779 Cluster activities (dismantling, decommissioning, etc)

The Reconnaissance Level Characterization (RLC) objectives are derived from the DQO process presented in Section 5 0 of the draft "Decommissioning Characterization Protocols" The following identifies the results of this DQO process

Step 1

a. Why perform this characterization?

The RLC information is being obtained to establish a baseline of hazards within the 779 Cluster facilities The baseline information will be summarized and presented to the DOE/RFFO in a Reconnaissance Level Characterization Report The information contained in the report will be used for the following purposes

- The Department of Energy/Rocky Flats Field Office (DOE/RFFO) uses the RLCR to determine the need for a Decommissioning Operations Plan (DOP)
- The information is used to develop a Health and Safety Plan
- The report is used as input to the Waste Management Plan
- The report is used as an information source for in process characterization

b What types and kind of sampling measurements are required?

The types and kind of measurements required are presented in Appendix B.

c. Who needs the information?

The DOE/RFFO and project specific personnel need the information

d. When is the information needed?

The information is needed to support the DOE Critical Decision (CD-3) Process scheduled for 9-30-97

Step 2

a What decision(s) will be made from this characterization information?

The primary decision which will be made using this information is Is a DOP required for the 779 Cluster?

The information is also used to support several supplementary decisions including

- Health and Safety Plan requirements
- Waste Management Plan requirements
- Final Survey Plan requirements
- In process characterization requirements

b. Are there any alternatives to the decision(s)?

The alternative to the primary decision is that a DOP is not required

The alternative to the supplementary decisions is the level of detail required for the associated plans (i e if contaminants of concern are minimal, the level of protection to human health and the environment may be minimal)

c What is the end use of the equipment, facility, or structure (free release, restricted use, low level waste, etc.)?

There is no future use of the 779 Cluster facilities or the overall cluster structures Equipment will be free released, identified for restricted use or characterized as waste based on radiological survey, sample results, and cost benefit analysis

Step 3

a. What information is required to make the decision(s)?

A baseline of the chemical, physical, biological and radiological hazards within the 779 Cluster facilities is required to make decommissioning decisions In addition, in-process characterization, as defined in Section 4 1 3 of the DOP will be performed throughout the life of the project as hazards are minimized or removed

b. What source(s) can be used to obtain the information?

Process knowledge, subject matter experts, facility drawings, and facility walkdowns can be used to obtain reconnaissance level characterization information A detailed examination of process knowledge and documents relating to the 779 Cluster was initiated in September 1996 As part of this examination, a comprehensive survey of historical records was undertaken to determine the location and characterization of any radioactive and hazardous contaminants which may be present in the area A room by room summary of relevant process knowledge and characterization information is presented in Appendix B

c Can the desired analysis be done at RFETS or will the analysis be shipped off-site?

A combination of on and off-site laboratory analysis will be performed in support of process knowledge and survey results

Radiological Survey information will be performed by trained RFETS personnel

Asbestos, Beryllium, Lead, Polychlorinated biphenyl (PCB), and fingerprint analysis may be done on-site or off-site as determined by the RFETS Analytical Projects Office (APO)

d. What type of instrumentation is required?

Radiological instrumentation is identified in Appendix A

The other materials will be analyzed in a laboratory The specific instrumentation is identified in the applicable laboratory procedures

e Has all facility structural data been reviewed?

All the available historical and facility information has been reviewed

f What suspect materials have been identified?

The suspect materials and associated hazards that have been identified are

MATERIAL	HAZARD
Equipment	Radiological Contamination, PCBs, Be, RCRA Metals, in the 779 Cluster
Piping	Radiological Contamination, Be, Asbestos, Liquids
Ventilation Ducting (and associated ancillary equipment)	Radiological Contamination, Be, Asbestos
Gloveboxes (and associated ancillary equipment	Radiological Contamination, Be, Lead
Building Structural Material	Radiological Contamination, Be, PCBs, Asbestos, Lead

Following is a discussion associated with suspect materials that have been identified Materials located within the 779 Cluster has been evaluated using the reconnaissance level characterization process identified in Section 2 1, *Characterization Objectives* The materials have been characterized as either suspect or non-suspect with respect to sources of contamination

Equipment has been evaluated for radioactive contamination, PCBs in oils and capacitors, and beryllium Historical radiological surveys, radiological holdup data, an evaluation of equipment for oil reserves and high voltage capacitors, and process knowledge are sufficient for 779 Cluster planning purposes In-process characterization will be performed as equipment is dispositioned This characterization will include, as appropriate, radiological surveys, sampling of reservoirs, removal of capacitors, and additional beryllium surveys In addition, if computer equipment is identified as waste, circuit boards containing RCRA metals will be removed and disposed of in accordance with applicable regulations

Piping located within 779 Cluster facilities has been evaluated for radioactive material, external beryllium contamination, asbestos and the potential for liquids Process knowledge, building piping drawings, asbestos sampling, and radiological and beryllium survey data, have provided sufficient information for 779 Cluster planning purposes Pipes wrapped in asbestos containing materials have been identified and will be removed in accordance with applicable regulations Process lines have been characterized and drained and are, therefore, believed to be empty Even though piping is anticipated to be free of liquids, removal of piping will be performed in a manner that will contain any residual liquids and residues Prior to removal of piping, external radiological and beryllium surveys will be performed to ensure that known conditions have not changed Asbestos abatement will be performed Liquids removed from piping will be characterized and disposed of in accordance with applicable requirements

Ventilation ducting is known to contain plutonium holdup The sections of ductwork containing plutonium holdup have been identified and characterized using process knowledge, review of building ductwork drawings and radiological survey data PCB suspect gaskets will be sampled and analyzed as ductwork is removed Prior to removal of ventilation ducting, external radiological and beryllium surveys will be performed to ensure that known conditions have not changed and asbestos abatement will be performed

Gloveboxes and associated ancillary equipment have been surveyed for radiological contamination Plutonium holdup is known for gloveboxes in the 779 Cluster Process knowledge and survey results are sufficient to support preliminary planning events In-process characterization, such as additional radiological and beryllium surveys, will be performed to ensure successful decontamination and/or sealing of contamination Lead lined gloveboxes have been identified, associated work activities will be performed in accordance with Occupational Safety and Health Administration (OSHA) and Site industrial hygiene requirements Waste resulting from gloveboxes will be segregated and managed in accordance with applicable requirements

Present reconnaissance level characterization of building structural materials is sufficient to support the 779 Cluster planning process Cluster radiological surveys have been evaluated and the primary areas of contamination are known Building surfaces have been painted with lead-based paints In-process characterization will be performed on painted surfaces to ensure that the resulting waste form will be compliantly disposed of In general, as building surfaces are disrupted, worker precautions will be implemented PCB-containing ballasts will be segregated and removed prior to demolition of the facilities Suspect wiring will be evaluated for PCBs as building surfaces are removed Asbestos containing materials will be removed as areas within the Cluster are prepared for demolition Final radiological surveys and beryllium surveys will be performed to ensure facility suitability for demotion

Step 4

a What is the scope of this characterization?

This document was prepared using the DQO process identified in the draft Decommissioning Characterization Protocols The DQO process was used to identify the scope of the reconnaissance level characterization and in determining sampling/survey requirements The information presented in this plan specifically pertains to the 779 Cluster, the review of historical records and process knowledge information covers the operational time period for the facility from original construction to present

The scope of this document is to gather sufficient characterization information to develop the 779 Cluster RLCR The characterization effort includes document and historical reviews, walk-downs and media sampling Media sampling will include building materials, liquids and system components Sampling requirements are identified in Section 2 3, Appendix C of the draft Decommissioning Characterization Protocols Appendix B identifies where sampling is necessary, the type of material to be sampled and the number of samples to be obtained

b What is the sample population of interest?

The sample population of interest is building materials and system components present throughout the 779 Cluster

c What types of chemical, physical/biological, or radiological hazard is being evaluated?

The following hazards were evaluated for their presence in the 779 Cluster

Asbestos
PCBs
Excess Chemicals
Lead
Beryllium
Radioactive materials
RCRA metals

d. Are there any constraints on data collection?

Any constraints will be outlined in job specific RWPs, Activity Hazard Analysis' (AHAs), etc Typical data collection constraints may include

Personal Protective Equipment (PPE) requirements
Training requirements
Worker Safety & Health issues (i e , heat/cold)
Sampling equipment
Waste management requirements

e. What sample measurement locations (densities) are necessary to get the desired certainty?

There are no statistical certainty requirements associated with reconnaissance level characterization Therefore the number of sample measurement locations will be based on the professional judgement of the trained sampler

f To what chemical hazards could the workers be exposed?

Beryllium
PCBs
Lead
Asbestos
Oils
Solvents

g To what physical hazards could the workers be exposed?

Workers could be exposed to the standard industrial hazards such as trips, falls, electrical energy, and power tools

h To what biological hazards could the workers be exposed?

It is not expected that workers will be exposed to any biological hazards, however animals such as insects, rodents, or snakes may be encountered during the course of decommissioning activities

i To what radiological hazards could the workers be exposed?

Contamination
Radiation

Step 5

a. What is the basis for the decision?

The decision to require a DOP is somewhat arbitrary It is based on the perceived risk associated with the identified hazards The decision is made by the DOE/RFFO

Additionally, information on parameters of concern (i e asbestos, radiation) will be used to the extent relevant during development of the HASP,WMP and RWPs The limits that apply to the HASP are the threshold limit values (TLVs) and radiological dose limits For the WMP there are characterization and regulatory requirements associated with waste disposal RWPs may use As-Low-As-Reasonably-Achievable (ALARA) guideline values and dose limits during work planning

b. Are there any regulatory and statistical drivers for sampling frequency?

Sampling frequency for reconnaissance level information is not driven by any regulatory or statistical requirements

c. What are the required instrumentation sensitivities?

Radiological instrumentation sensitivities are identified in Appendix A

The other materials will be analyzed in a laboratory The specific instrumentation sensitivities are identified in the applicable laboratory procedures

d What action levels are applicable to the discussion or parameter of interest?

There are no action levels specifically applicable to reconnaissance level characterization However, limits exist which may be used during development of the HASP, WMP and RWPs The limits that apply to the HASP are TLVs and Radiological dose limits For the WMP there are regulatory requirements for waste disposal RWPs may use ALARA guideline values and dose limits during work planning

Step 6

a. What sample size is necessary for the analysis being completed?

The sample size is analysis specific and is outlined in the draft "Decommissioning Characterization Protocols" and specific laboratory requirements

b. What number of samples/measurements will provide the desired certainty?

There are no statistical certainty requirements associated with reconnaissance level characterization Therefore the number of samples/measurements will be based on the professional judgement of the trained sampler

c What is the expected range of the parameter of interest?

The expected range is non detectable to levels which would require worker protection and regulatory actions during decommissioning activities

d What are the potential consequences of an incorrect decision?

The potential consequences of an incorrect decision are

- A DOP will not be developed when it should be
- Worker exposure to chemicals or radioactive material
- Improper waste disposal

e. What are the limits on decision errors?

This question does not apply to the reconnaissance level characterization since there is no specified criteria or limits on which decisions are based

Step 7

a. What method will be used to obtain the desired information?

The following methods will be used to obtain the desired reconnaissance level characterization information

- Confirm the accuracy of facility-related documentation including as-built or modified facility construction equipment installations and general facility conditions
- Obtain volume estimates for wastes that will be generated during removal activities

- Identify equipment, structures, process lines, and ancillary equipment that will require hazardous and/or radioactive surveys and analytical sampling to further characterize the Cluster
- Identify potential sources of lead and asbestos, and sample as outlined in Appendix B
- Identify potential chemical contamination, (chemical contamination would be identified through evidence of staining or unusual odors)
- Identify physical hazards (such as tripping, loose/missing handrails, etc)
- Locate, identify, and document any facility condition or problem situation which had not been previously identified or otherwise documented in appropriate building records or files
- To identify equipment, structures, process lines, and associated items which require field surveys and/ or analytical sampling for the purposes of characterization of the 779 Cluster for radioactive and hazardous contaminants These sampling activities will be conducted prior to decommissioning efforts and are identified in detail in Appendix B

b What level of worker protection is required to perform characterization in the facility, structure or environs?

Safety shoes and safety glasses will be worn for all decommissioning activities Other protective measures are identified in the job specific RWP or AHA In areas posted as contamination or high contamination areas, protective clothing will be worn in accordance with the RWP In areas with airborne contamination, full face respirators or airline respirators will be worn in accordance with the appropriate RWP

c. How will the survey design be optimized?

If the DOE/RFFO decides they do not have enough characterization information (based on their review of the RLCR), additional information will be requested

d. Have data quantity and quality assurance requirements for sampling been reviewed and incorporated into the characterization process?

Yes Items reviewed included Radiological Control Technician (RCT) training, instrument calibration, and laboratory Quality Assurance (QA) and certification programs

e Are there special data reduction, validation, and reporting requirements for the survey information being obtained?

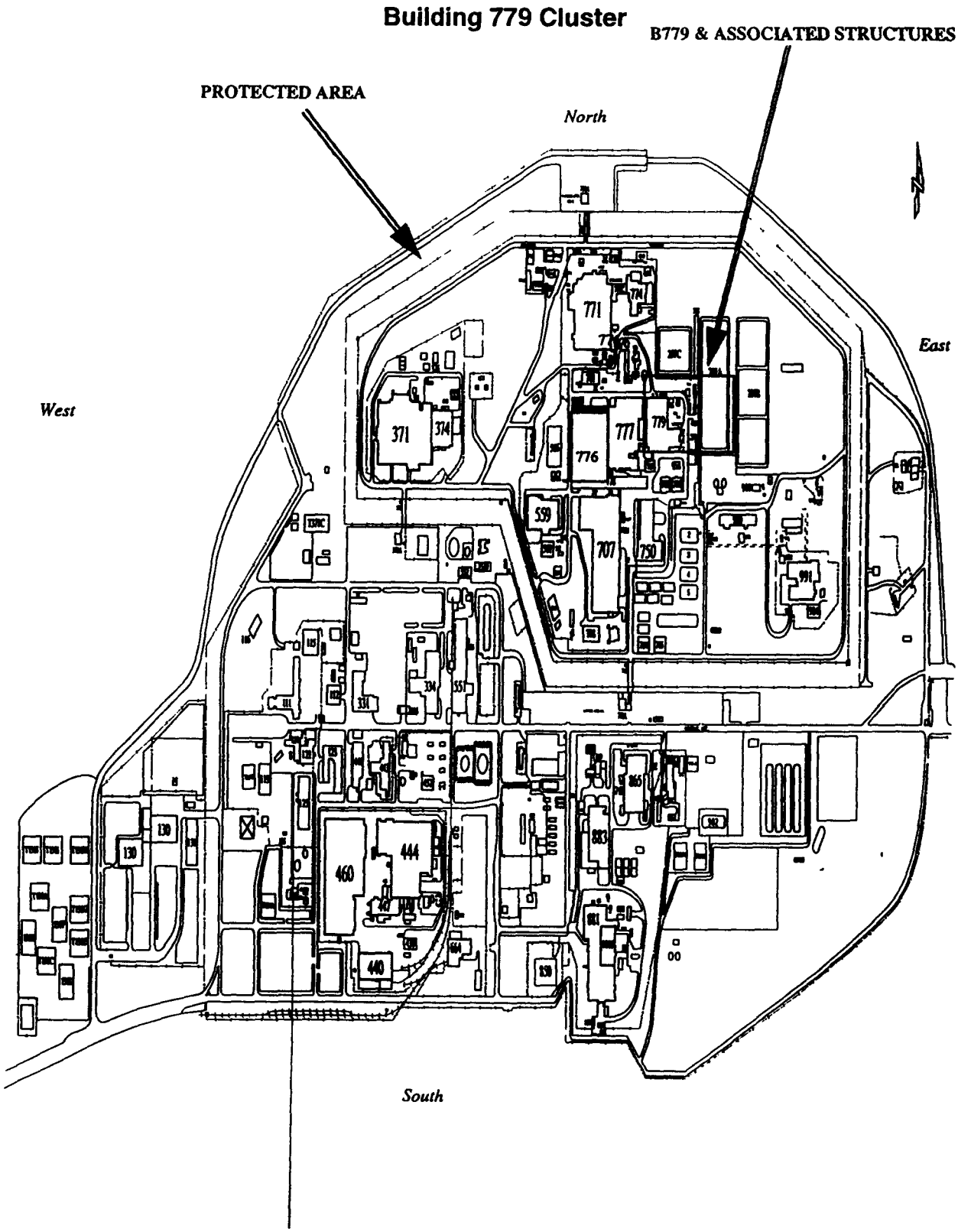
All project documents are reviewed by individuals with appropriate technical expertise

Additionally, all project specific documents, including laboratory data become part of the administrative record

f. What QA program requirements are there for these samples (i.e., blanks, duplicates)?

Due to the scoping nature of the reconnaissance level characterization, the project has no additional QA requirements, beyond each laboratory's specific requirements

Figure 1-1 Site Map



3.0 IMPLEMENTATION

This section provides information necessary to perform the planning phase of the 779 Cluster project

3 1 HISTORICAL INFORMATION

A detailed examination of process knowledge and documents, relating to the 779 Cluster was initiated in September 1996 As part of this examination, a comprehensive survey of historical records was undertaken to determine the location and characterization of any radioactive and hazardous contaminants which may be present in the area A room by room summary of process knowledge and characterization information is presented in Appendix B The general conclusions drawn from this reconnaissance level characterization examination are as follows

Presently, the 779 Cluster is in a safe shutdown condition All required utility services (i e , electrical service, and water supply are active Building air ventilation and high efficiency particulate air (HEPA) filtered exhaust systems, instrument air supply compressors, and necessary radiological monitoring instrumentation systems are in normal continuous operation All manually-actuated and automated fire/alarm suppression systems are operational All installed facility security and radiological alarm systems are normal All remote-handling mechanisms and auxiliary facility support equipment are operational or are available for activation and use

The 779 Cluster presently houses a significant quantity of material and equipment which is radioactive, radioactively-contaminated, and/or contains hazardous constituents (i e , lead, asbestos, beryllium)

Building 779 was used for Research and Development (R&D) in support of nuclear weapons production Although a wide variety of plutonium (Pu) activities were conducted in the building, large quantities of Pu were not processed Areas of Pu holdup within the building have been identified and the areas with significant quantities (above Category C) were cleaned up to a Category D or below during the deactivation process Room 228 contains a gamma-cell experimentation device, which contains a radioactive Cobalt 60 source

Contamination from plutonium (Pu), beryllium (Be), uranium (U), and other materials processed in Building 779 is known to exist (Appendix B) Excess chemicals were removed as a deactivation activity

Machine, hydraulic and lubricating oil, and grease exist in various machines in Building 779 Equipment which was thought to contain hazardous substances was put in the Idle Equipment Program This ensured that the equipment fluids would be tested for the presence of hazardous substances Equipment fluids found to contain a hazardous substance were removed during deactivation Due to the age of the facility, considerable amounts of asbestos are presumed to be present in the insulation and building materials Lead is present in the glovebox shielding and in some of the building materials

3.1 1 Asbestos

The specific quantity and distribution of asbestos containing material is known A thorough walk down of the facilities has been completed Sampling locations are identified in Appendix B Further sampling and asbestos abatement will precede any activity which would disturb the potential asbestos containing material

3 1 2 Lead Paint

The amount of lead in the painted surfaces will be determined as necessary to support the decommissioning effort Lead sampling will be performed using the appropriate protocols in areas that will be determined in the field by a qualified building inspector In addition, paint samples will be taken to appropriately characterize the waste streams during in-process characterization

3 1 3 Beryllium

Beryllium metal was removed from the 779 Cluster facilities during the deactivation process But, because Be was machined and analyzed in some areas of the facility, sampling will be performed in the areas identified in Appendix B

3.1 4 Radioactive Materials

There are no areas within the 779 Cluster which have significant amounts of unidentified/uncontrolled/unmarked radioactive contamination There are some areas which are clearly identified as contamination areas which are not in B-boxes or gloveboxes There are no accessible areas which have radiation levels above 1 millirem Room 160 in Building 779 is the only room known to have significant amounts of fixed radioactive contamination in the room's painted surfaces As equipment is removed from the 779 Cluster to expose the painted surfaces, sampling and analysis for fixed radiation contamination will be completed Current planning is to remove paint from all rooms which handled significant quantities of radioactive material

Additional radiological surveys will be performed as in-process characterization The survey requirements will be outlined in specific radiological survey instructions developed for a given area The level of detail for specific surveys will be based on the radioactive contamination potential for the area

Four area classifications may be used to design the 779 Cluster surveys These classifications are defined as follows

Class 1 Impacted (Affected) Areas are areas that have potential contamination (based on building operating history) or known contamination (based on past or preliminary characterization survey data) This would normally include areas where radioactive materials were used and stored and where records indicate spills or other unusual occurrences could have resulted in the spread of contamination The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement per square meter In addition, an alpha/beta scan survey of 100% of the applicable surface areas, including fixed equipment, is required

Class 2 Impacted (Affected) Areas are areas that have or had a potential for radioactive contamination or known contamination, but are not expected to exceed the applicable contamination limits The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement at intervals as determined utilizing MARSSIM statistical calculations. In addition, a scan survey for alpha and beta of 10 to 100% of the applicable surface areas, including fixed equipment, will be performed as directed by Radiological Engineering Personnel

Class 3 Impacted (Unaffected) Areas. are all areas not classified as Class 1 or Class 2 Impacted or Non-Impacted These areas are not expected to contain residual contamination above the applicable limits, based on knowledge of building history and previous survey information However, insufficient documentation is present to exclude the area from survey requirements The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement per 50 square meters or 30 points, whichever is greater In addition, an alpha/beta scan survey of 10% of the applicable surface areas, including fixed equipment, is required

Non-Impacted Areas are all areas not classified as Class 1, Class 2 or Class 3 Impacted These areas are areas where there is no reasonable potential for residual contamination, based on knowledge of building history and/or previous survey information Sufficient information is present to be assured that no residual contamination is present above the applicable contamination limits

3.1 5 Hazard Assessment

An assessment of the hazards that may be encountered during specific decommissioning activities has been performed through walk-downs and job safety analyses This information will be incorporated into the planning process for each activity to ensure maximum protection of the worker

3 1 6 Hazardous Waste

At this time there are no hazardous wastes being stored in the facilities Hazardous product material identified during the walk-downs will be removed prior to the start of decommissioning

3 1 7 Polychlorinated biphenyls (PCBs)

The primary use of PCBs was in capacitors, transformers, plasticizers, hydraulics, lubricants and carbonless paper The commercial use of PCBs was discontinued in the United States in 1979 Because the 779 Cluster facilities were constructed from 1965 to 1973, a facility evaluation was performed to identify PCB suspect materials PCBs may be present in fluorescent light ballasts, and to a lesser degree in oils, tars, HVAC systems, painted surfaces, telephone wire and adhesives (high temperature areas) Suspect areas and materials subject to sampling have been identified in Appendix B The identification of suspect materials included utilizing the Decommissioning Characterization Protocols

3 1.8 Excess Chemicals

Although there were hazardous chemicals in the 779 Cluster facilities, all excess and hazardous chemicals have been removed during the deactivation process with the exception of some paints and cleaning solvents, which will be disposed of by the subcontractor Because the chemicals have been removed and there are no known areas which have a buildup of chemical residue, no special chemical characterization is anticipated Should a chemical be found during the decommissioning process, the chemical will be handled in accordance with existing chemical identification and handling procedures

3 2 SUMMARY DESCRIPTION OF THE 779 CLUSTER

Main structures in the 779 Cluster are the development facility, Building 779, a filter plenum and emergency generator building, Building 729, a filter plenum building, Building 782, the emergency generator facility, Building 727, a paint storage facility, Building 780, and a cooling tower, Structure 783 Building 779 was built in 1965 and has had several additions and modifications since then Building 779 is located in the north central section of the RFETS, east of Buildings 776/777 and north of Building 750

During 1988, the exterior containment of Building 779 was structurally upgraded to withstand a Design Basis Earthquake and Design Basis Wind Building 779 was a facility for R&D activities in physical chemistry, physical metallurgy, machining and gaging technology, joining technology, and process development The facility supported weapons production activities and was an essential component of the national security operations performed at Rocky Flats The areas in which these operations were located are described below

3 2 1 Description Of Facility

This section describes the physical arrangement of principal buildings in the 779 Cluster, their architectural and structural features, significant equipment, environmental control systems, and safety aspects of each The original Building 779 has been in use since May 1965 Since then, two major additions have been constructed The first addition, also referred to as Building 779A, was built in 1968 The second addition was built in 1973 and is also referred to as Building 779B Two new filter plenum buildings for the Cluster were constructed Building 729 in 1971 and Building 782 in 1973

3 2 2 General Description

Building 779 is the primary structure in the Cluster Ground-floor area (including a covered dock) is 42,800 square feet (ft^2), the second floor is 24,370 ft^2, and the basement is 540 ft^2, for a total of 67,710 ft^2 The building is roughly L-shaped The north-south leg is approximately 161 ft wide and 214 ft long The east-west leg is 62 ft wide and 101 ft long At its highest, the building is 27 ft high

Building 729, one of the two filter plenum buildings for Building 779, is rectangular in shape, 72 ft long (east-west), 38 ft wide, and 30 ft high It is located south of Building 779 and is connected to it via a second-story, 8 ft wide duct bridge

Building 782 is the other filter plenum building for Building 779 It is 60 ft wide by 99 ft long (north-south) and is located east of Building 779 The building is 20 ft high It is connected to Building 779 via a combination of an underground duct tunnel, a two-story vertical shaft, and an overhead duct

The emergency generator for Building 782 is in a separate concrete block structure, Building 727, east of Building 779 and north of Building 782

A cooling tower, Building 783, is located east of Building 779 and north of Building 727

A paint storage facility, Building 780, is a sheet-metal shed located east of the northeast corner of Building 779

In addition to the structures mentioned, heating, ventilating, and air conditioning (HVAC), electricity, gas and compressed air, steam, water, process waste, sewer, fuel oil, and fire protection utility systems serve the Cluster

3 2.3 Building 779 Description

Primary functions of Building 779 are R&D There have been two major additions to the building The first addition (Building 779-2) provided supplemental office, laboratory, and mechanical equipment space Also, two large machine shop areas were added The second addition (Building 779-3) supplied more office and laboratory space, plus an environmental storage facility and a storage vault

The facility has joining, coating, and electroplating laboratories, machine shops, environmental storage areas, facilities, offices, loading docks, locker rooms, a duct tunnel to Building 782, a second floor enclosed walkway to Building 777, and a second-floor duct bridge to Building 729

4 0 ASSESSMENT

The assessment stage of the 779 Cluster data life cycle will include an evaluation of data and any conclusions that may be drawn from the data The data may then be used for the development of a DOP (if required) Additionally, the data can be used in the planning stage for the HASP, WMP, and the Final Survey Plan After data evaluation, the information will be compiled in the Reconnaissance Level Characterization Plan (RLCP)

4 1 DATA EVALUATION

The data will be evaluated for completeness and adherence to the appropriate protocols

5.0 REFERENCES

DOE/EM-0142P - *Decommissioning Handbook*

Decommissioning Characterization Protocols (September, 1997) (Draft)

MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual* (Draft)

NUREG/CR5849 - *Manual for Conducting Radiological Surveys in Support of License Termination (Draft)*

Appendix A

Radiological Instrumentation

Radiological Instrumentation

Instrument	Count Type	Allowable Background Counts	Acceptable Application	MDA (dpm/100 cm^2)
Bicron w/ A100 Probe	60 sec (alpha)	2	Direct Alpha Surveys	55
Bicron w/ B50 Probe	60 sec (beta)	250	Direct Beta Surveys	610
NE Electra W/ DP6 Probe	60 sec (alpha) 60 sec (beta)	2 700	Direct Alpha Surveys Direct Beta Surveys	60 455
Eberline SAC-4	60 sec (alpha)	1	Removable Alpha Swipes	18
Eberline BC-4	60 sec (beta)	200	Removable Beta Swipes	205
LB-5100LW	60 sec (alpha) 60 sec (beta)	0 5 4	Simultaneous Removable Alpha and Beta Swipes	20 35
Gamma Spectroscopy	Variable	Variable with energy	Gamma Emitters Holdup measurements	Variable with energy
SAIC AP-2	Variable	Variable with energy	Alpha Spectroscopy (Field)	Variable

Appendix B

Reconnaissance Characterization Table

Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
001		Radiological Contaminants Chromium	Be Surveys (3 samples)
113	Assembly Technology Machine Shop	Machine turnings WD-40 Methyl alcohol Light metal	None
120	Old Change Room	N/A	Asbestos (2 pipe insulation, 1 drywall, 1 anti-skid flooring)
121	Maintenance Shop	Vacuum pump oil, non-RCRA circuit board w/silver and lead, RCRA circuit board w/silver and lead, and lead acid batteries	None
123	This is the decontamination room and likely has contamination in the process drains leading from it	Radiological Contaminants	None
124	This is an Radiation Control Technician (RCT) office	N/A	Asbestos (1 jointed drywall, 1 wall plaster)
125	This room is a RCT office Radiation sources are stored in the northeast corner of the room	N/A	Asbestos (1 poured flooring, 1 cement wallboard)

*Note Electrical ballasts will be evaluated for PCBs in all 779 Cluster facilities PCB containing ballasts will be disposed of in accordance with TSCA

Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
126	This is a utility area and should not contain appreciable amounts of Pu other than what might be in process piping There are gloveboxes for house vacuum and batteries for uninterrupted emergency power supply In Room 126, there is a helium tank system and scrubber on the west wall for a helium inert glovebox in Room 133 It was abandoned in the late 1970s or early 1980s The system never went hot There is an abandoned water still for producing distilled water from sanitary water The cooling water from this system went into T-5 The still should be uncontaminated The sub-basement (Room 001) below has all process piping for the T-5 tank (i e , holding tank for all B779 process drains including all lab sinks) This was a RCRA tank, but it has been flushed, triple rinsed, and now receives only sanitary and eyewash liquids It is closed as a RCRA site This tank can also receive low-level solutions, as needed The liquid in the tank now is water from chillers, condensate water, and water from eye wash and safety showers The room above the T-5 Tank houses pumps and two cooling water system tanks There are two other pits in addition to the one containing the T-5 tank that are accessed from the pump room These pits are labeled as contaminated There are asbestos-lined pipes (condensate steam lines) overhead in this pump room There are two old concrete pump bases from which pumps have been removed and never replaced These have been painted over It is possible that there is contamination underneath the paint	Radiological Contaminants Asbestos Chromium	Asbestos (10, mud, 1 wall plaster, 1 pipe)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
127	This is a utility room containing chillers and part of the building's original ventilation system The filter plenum is contaminated and there is asbestos in the room The chillers are considered uncontaminated	Radiological Contaminants Asbestos	Asbestos (1 pump insulation, 5 duct insulation, 2 pipe insulation)
128		N/A	None
130	These have been painted over It is possible that there is contamination underneath the paint	N/A	None
131	This was an aqueous laboratory supporting pyrochemical technology	Pu, Am, tantalum, oils, solvents, calcium, calcium chloride, magnesium, gallium, zinc, tin, aluminum, dicesium hexachloro-plutonate, and vacuum pump oil	Asbestos (1 cove base) Be Surveys (4 samples)
132	Source Check Lab	N/A	Asbestos (1 fibrous wallboard)
133	R & D Plutonium Pyrochemistry Lab and Residue Storage	Radiological Contaminants Oxide reduction	Be Surveys (10 samples)
134	There are three flammable chemical storage cabinets in this room	Flammables	None
135	Supply Storage	N/A	Asbestos (1 cove base)
136	Chemical Technician Office	N/A	None
137	Peroxide Precipitation Pu Oxide Dissolution Residue Recovery Extraction	Oxide residue, Pu Nitrate, spent resin $H_{28}0_4$, Pu Oxide, leached metal	Be Surveys (10 samples)
138	Storage	N/A	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
139	Soil Analysis Lab	Ferrite material, acid wash, treated material	Asbestos (1 wall plaster, 1 poured floor)
140	Metal Preparation Laboratory	Depleted U, Be	Be Survey Asbestos (1 pipe insulation, 1 cove base)
140A	Scanning Electron Support Room	Radiological Contaminants	Be Surveys (3 samples)
140B	Scanning Electron Microscope (SEM)	Radiological Contaminants	Be Surveys (38 samples) Asbestos (2 drywall)
141	ESCA	Radiological Contaminants	Be Surveys (3 samples)
141B	This room has a scanning electron microscope This system is uncontaminated	Depleted U, Be, titanium, diamond paste, inorganic and organics acids, methylene chloride, acetone, methyl ethyl ketone, alcohols, oils, solvents, freon, and isopropanol	Be Surveys (3 samples)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
141C	This room contains an uncontaminated metallograph and an uncontaminated optical reduction equipment This equipment was used to photograph samples	Depleted U, Be, titanium, diamond paste, inorganic and organics acids, methylene chloride, acetone, methyl ethyl ketone, alcohols, oils, solvents, freon, and isopropanol	Be Surveys (3 samples)
142	This is a utility room containing part of the building's original ventilation system This room was used as a RCRA storage unit for waste oil	Oils	Asbestos (5 pipe insulation, 3 tank insulation, 12 duct insulation, 1 pump insulation, 3 drywall)
143	Airlock to Annex	N/A	Asbestos (1 drywall)
146	Office Area	N/A	Asbestos (1 drywall, 1 cove base)
147	This room was used for drum storage of non-RCRA drum storage for radiological waste It also supported Room 150 with nuclear joining	Tungsten welding (Thorium)	Asbestos (1 drywall)
149	Hallway	N/A	Asbestos (3 drywall, 2 floor tile, 5 ceiling tile, 1 cove base, 1 pipe insulation)
150	Room 150 was used for nuclear joining of metal weapon components and for super critical CO_2 cleaning Cleaning and rinsing of the components was performed prior to the welding operation The process involved tungsten arc welders, electron beam welders, and torch brazing	Hydrochloric, nitric, hydrofluoric, phosphoric, oxalic, sulfuric acids, acetone, ethanol, copper sulfate, oils, alcohol, Pu, U, and Be Tungsten welding (Thorium)	Be Surveys (10 samples) Asbestos (2 drywall, 1 pipe insulation, 1 poured flooring, 1 glovebox heater insulation)
151	Office	N/A	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
152	Room 152 was used as an experimental casting lab to test metal compatibility's with graphite mold substrates Pu and non-nuclear metals were heated until molten and poured into graphite molds The molds were then examined and analyzed There is a vault on the north end of the room and it has not been used for material storage for many years A power generator located south of Glovebox 28, because of its age, it is thought to contain PCBs There is radiological contamination in the northwest corner of the room	Pu, U, graphite, carbon, calcium fluoride, tantalum, and freon Metallurgy	Asbestos (1 poured flooring, 1 pipe insulation)
153	This room is used for radiological waste drum storage and contains a trash compactor This room was also used for RCRA drum storage	Radiological Contaminants	None
153A	This room has a compactor for hot waste, a lead drum shield, two bottles, and three abandoned pumps The room appears to have been used for drum storage at one time	Radiological Contaminants	Asbestos (1 wall plaster)
153B	This room has a downdraft table used to repackage waste The room is posted as respiratory protection required	Radiological Contaminants	None
154	This room was used for hydrating and dehydrating Pu from substrates Hydride could still be present in the glovebox system Glovebox 1363 and 1364 is where hydrating/dehydrating was accomplished Hydride acid boil down	Pu Sulfuric acid, hydrochloric acid, nitric acid, Tantulum, and other metals, Pu hydriding (Pu buttons fabricated)	Be Surveys (10 samples)
155	This room was a Pu sample-mounting laboratory supporting auger spectroscopy It had etching, polishing, a furnace, and B-boxes to pull samples out of line Hood 155 NE - This hood is used as a 90-day accumulation area (7792269) It has contained numerous chemicals	Pu, organic solutions, orthophoric, and oxalic acids Metallurgy photographs	Asbestos (1 drywall, 1 ceiling tile, 1 floor tile, 1 cove base) Be Surveys (5 samples)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
155 (Cont)	There is possible transite (asbestos) lining the hood The hood is labeled "NO FISSILE MATERIAL ALLOWED "	Am and Pu	None
156	This room is the calorimeter room There are, besides the calorimeter, 2 large gas cylinders and two contaminated portable air handlers and a calorimeter	Radiological Contaminants	Asbestos (1 floor tile, 1 cove base)
157	Tensile Testing Laboratory Glovebox 222 - This glovebox was never placed in service It contains a tensile testing machine Glovebox 223 - This box is non-leadlined and houses a hot tensile testing machine There is a heat detection unit (old stacked-style storage rack) There is a supply line on the east end Glovebox 224 - This glovebox was used to prepare samples and is contaminated Glovebox 225 - This glovebox was never placed in service and has no gloves Glovebox 226- This glovebox is clean except for a one gallon can and a few tools The airlock ledge inside the box has dust and items There are two filter housings located external to and above the glovebox	Pu, Pu contaminated metals, isopropanol Metallurgy (Tensile Testing)	Be Surveys (12 samples)
159	This is a permitted storage area for RCRA waste (Unit 779-90 42) There are several drums stored here containing mixed residues	Residues Am and Pu (Pyrochemical)	None
160	This room was retrofitted in the early 1980s as a pyrochemical development facility Operations that took place in this room included DOR, ER, MSE, Salt Scrub, and other high temperature studies with Pu and Americium (Am) In 1985 there was a major stationary furnace breach in Glovebox 865 which contaminated the entire room with Pu and Am Smears taken immediately after from around the room measured infinity It took an entire year to completely decontaminate the room	Calcium Oxide, Magnesium Oxide, Magnesium Chloride, Sodium Chloride, Calcium Chloride, Am, and Pu (Pyrochemical) Oxide Reduction Am & Pu Molten Extraction Salt Scrub	Asbestos (1 drywall) Be Surveys (12 samples)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
160 (Cont)	Walls, floors, ceiling and pipe were painted after decontamination to fix any remaining contamination in the ventilation system servicing the room This contamination may have migrated to adjacent rooms	Electrorefining	
160A	Room 160A was a vault which contained Special Nuclear Material (SNM) SNM was removed from this vault in 1996	Radiological Contamination Am & Pu	None
161	Janitor Closet	N/A	Asbestos (1 pipe insulation)
162	Machine Shop	WD-40 Methyl alcohol Machine parts Machine turnings	Asbestos (2 pipe insulation)
163	This room is currently being used for empty drum storage	N/A	None
163A	Office	N/A	None
164	Hallway (Airlock)	N/A	None
165	Double Doors	N/A	None
166	Airlock	N/A	None
167	Women's Locker Room	N/A	None
167A	Women's Shower	N/A	None
171 & 172	These two rooms are active SNM storage vaults A chainveyor vault is located in Rooms 172 and 171 and has Benelex-shielded cubicles It is not known of any instances of prior contamination, however, it is assumed unlikely	N/A	None
173	Utility Area, Mechanical Room	N/A	Asbestos (5 pipe insulation)
202	Office	N/A	Asbestos (1 drywall and plaster)

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203	Office	N/A	Asbestos (1 panel adhesive)
204A	Office	N/A	Asbestos (1 panel adhesive)
204B	Office	N/A	Asbestos (1 plaster)
205	Office	N/A	Asbestos (1 panel adhesive)
207A	Office	N/A	Asbestos (3 stucco wall)
209	Office	N/A	Asbestos (1 plaster)
212	Office	N/A	Asbestos (1 floor tile)
212A	Office	N/A	Asbestos (1 ceiling tile)
214	Office	N/A	Asbestos (1 caulk, 1 floor tile)
215	Hallway (Airlock)	N/A	None
216	Hallway	N/A	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
217	Room 217 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies Equipment - This room contains a contaminated auger and surface analysis ESCA This was attached to a relatively new (late 1980s) stainless steel, non-lead lined glovebox (Glovebox 330-371)	Pu, U, trichloroethane, freon, ethanol, and methanol	Be Surveys (5 samples)
218	Room 218 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies	Pu, U, oils, solvents, liquids, inks, trichloroethane, methanol, freon TF, and ethanol	Be Surveys (10 samples)
219	Restroom	N/A	None
220	Metallurgy Laboratory Polymer Preparation Plutonium reaction studies	Pu, U, oils, solvents, inks, trichloroethane, methanol, freon TF, and ethanol	Asbestos (1 drywall) Be Surveys (12 samples)
221	This room stored several lecture bottles of gases and a large gas cylinder at one time	N/A	Asbestos (1 plaster)
221A, 274, 275, 277	These rooms have miscellaneous furniture and equipment	N/A	Asbestos (221A 1 plaster)
221B	There is a drum liner stored here with fixed contamination There is also laboratory jack which has fixed contamination There is an uncontaminated vacuum system also present	Radiological Contaminants	Be Surveys (2 samples) Asbestos (1 plaster)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
222	Room 222 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies	Pu, U, oils, solvents, inks, trichloroethane, methanol, freon TF, and ethanol	Asbestos (1 drywall) Be Surveys (25 samples)
222A	Storage Room	N/A	None
223	Room 223 was a coatings laboratory which coated U, Be, stainless steel, and aluminum parts with a thin layer of metal The basic process equipment used consisted of a vacuum chamber, arc welder, vacuum pump, and associated water cooling equipment Hood 223-1 was used for beryllium coatings work The floor in front of the hood is contaminated and there is probably contamination in the exhaust line from the hood The hood is dirty inside and contains cans and beakers There is fixed contamination on the sink top next to the hood In the northwest corner there is a heater attached to a vent Lead tape covers the holes in the south side of the heater cabinet There is fixed contamination on the front of the filters leading into the cabinet In the south center of the room is a vacuum coating furnace The inside of the furnace is open to the room through an open side port The furnace exhausts directly into the room so it is probably not contaminated inside There is contamination in the lab on the north wall with large vacuum systems on the east wall It is unclear if these systems are contaminated	U, Be, aluminum, stainless steel, gold, platinum, palladium, vanadium, tantalum, yttrium, rhodium, nitric acid, and ethyl alcohol	None
224	Decontamination Room	Radiological Contaminants	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
225	Room 225 was a coatings laboratory which coated U, Be, stainless steel, and aluminum parts with a thin layer of metal The basic process equipment consisted of a vacuum chamber, arc welder, vacuum pump, and associated water cooling equipment There is contamination on the northeast cabinet There is a large vacuum The room was used for sample preparation for X-ray analyses, Pu metallurgy, and tensile testing	U, Be, aluminum, stainless steel, gold, platinum, palladium, vanadium, tantalum, yttrium, rhodium, and nitric acid	Asbestos (1 plaster skin on cinder block, 1 plaster)
226	Stairway	Radiological Contaminants	None
228	This room was used for sample preparation for X-ray analysis, Pu metallurgy, and tensile testing Saltcrete Sample Analysis	Pu, U, oils, organic solvents, isopropanol, varsol, diamond paste, and freon TF Saltcrete, Isocut cutting fluid, CDTA	Asbestos (1 plaster) Be Surveys (27 samples) PCB stain on floor next to transformer marked PCB
229	Office	N/A	Asbestos (1 plaster)
230	Office	N/A	None
231	Office	N/A	Asbestos (2 plaster skin)
232	Office	N/A	None
233	Metallurgy	Metallurgy, Be, U	Asbestos (1 floor tile)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
234	Room 234 was part of the Pu physical metallurgy research and development group which prepared, analyzed, and collected various metallurgical samples	Pu, oils, organic solvents, isopropanol, nitric acid, hydrofluoric acid, carbon tetrachloride, diamond paste, and freon TF	Be Surveys (29 samples)
234A	Room 234 was part of the Pu Physical Metallurgy research and development group which prepared and analyzed various metallurgical samples The X-ray unit has been removed from room This room contains four empty drums and one empty overpack that was for a project that is no longer funded Yellow paint was painted on the floor to cover contamination	Radiological Contaminants	Asbestos (3 drywall, 1 ceiling tile) Be Surveys (8 samples)
234B	This room was used as a dark room There is no contamination	Samples handled outside of gloveboxes	Asbestos (1 drywall)
235	This room has a contaminated transmission electron microscope	Radiological Contaminants	Be Surveys (15 samples)
236	Airlock and Bridge to B777	N/A	Asbestos (3 drywall, 3 plaster)
237	Hall to Annex	N/A	Asbestos (4 drywall, 1 cementitious joint sealer, 1 expansion joint)
273	This room has fixed contamination on a box of electrical connectors	Radiological Contaminants	Asbestos (1 floor tile)
274	Equipment Storage	N/A	None
275	Equipment Storage	N/A	None
277	Equipment Storage	N/A	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
270	Room 270 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies In the SE corner is a uncontaminated ESCA used for surface analysis Glovebox 2115 is uncontaminated Gloveboxes 972 and 973 are contaminated and were used for Pu and hydrogen studies In the northwest corner were two X-ray units which were removed, placed into crates, and now are being stored in Room 157 (these were partially contaminated) There is a satellite storage area (Room #7792238) for polymer development B-box 270-N is empty, but is contaminated, however, contamination is U-235 Glovebox 3072 is contaminated and has some tools remaining This glovebox also has U-235 contamination	Pu, U, oils solvents, inks, trichloroethane, methanol, freon TF, and ethanol	Asbestos (1 pipe insulation, 1 poured floor) Be Surveys (22 samples)
271	Room 271 has low-level mixed waste storage cabinets for treatability studies where samples were being stored by the Polymer Development Team These are also being used for storage of archived low-level mixed waste samples	Radiological Contaminants	Asbestos (3 drywall)
272	This was a testing laboratory The center Glovebox 6620 is uncontaminated Glovebox 6621 is Pu contaminated Class C explosives were stored in the file cabinet	Radiological Contaminants	None
273, 274, 275 & 277	Office Areas	N/A	Asbestos 273 (2 drywall, 1 floor tile, 1 cove base) 274 (1 ceiling tile) 275 (1 drywall)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
Misc Office/ Admin Areas	This area of the building consists of the offices and work areas on the east side of the building that are not contained within the MAA and are considered uncontaminated	N/A	Be Surveys (3 per room) Asbestos 114 (1 wall plaster, 1 floor tile)
	There are cold machine shops (Rooms 113, 121, & 162), showers and locker rooms (Rooms 103 & 167), an emergency generator (Room 117), a control room for building operations (Room 122), and various offices on both the first and second floor It is anticipated that there will be minimal hazards associated with this area of the building		Asbestos 1 duct/wall filler) 115A (1 drywall, 1 wall plaster) 116A (1 cove base) 117 (1 exhaust flue insulation) Airlock 118 (1 floor tile, 2 drywall) 121 (5 pipe insulation) 1 cement board, 1 wall plaster, 6 drywall
Misc Office and Amin Areas (cont'd)			122 (1 floor tile, 1 ceiling drywall, 1 cove base) 162 (2 pipe insulation, 2 drywall) 167 (1 ceiling drywall, 1 drywall tape & 1 joint compound, 2 floor tile)

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
B727	Building 727 houses a 500-kilowatt generator which provides emergency power to Building 782 The building is approximately 380 ft^2 and is constructed of concrete block and reinforced concrete There is a fire protection system with antifreeze solution and an electric space heater also in the building	Radiological Contaminants Asbestos	Asbestos (3 pipe insulation)
B729	This plenum building is approximate 3,000 ft^2 and is a one-story concrete block building with a small penthouse on the roof This building is located south of Building 779 and provides zone one and room air ventilation to the storage vaults and the rooms directly above the storage vaults on the south side of Building 779 Buildings 779 and 729 are connected by an overhead tunnel containing exhaust ductwork Building 729 contain two filter banks, a four stage and a two stage, glovebox and room air respectively There is a control room and a 150 kilowatt emergency generator There are two pits located in the building to collect fire sprinkler waste water The fire protection system for the building consists of wet-pipe sprinkler system with heat detectors and manual and automatic sprays in the plenum	Radiological Contaminants Asbestos	Asbestos 3 pipe fittings, 1 mastic)
B780	Building 780 is a corrugated metal shed attached to the northeast corner of Building 779 It has been used to store paint, solvents, miscellaneous equipment, and other material	Paints And Solvents	Asbestos (3 drywall, 1 pipe insulation)
B780A	Building 780A is another storage facility located east of Building 779 which is constructed of corrugated steel There are no utilities or fire protection associated with this facility	N/A	None

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Room No	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	*Required Analysis
B782	This plenum building is approximate 6,200 ft^2 and is a one-story precast, reinforced concrete building It is located east of Building 779 and provides Zone 1 and room air ventilation to the rest of Building 779 Buildings 779 and 782 are connected by an underground tunnel containing exhaust ductwork Building 782 contains three exhaust plenums for Buildings 779 and 782 and a supply air plenum for Building 782 There is a fire water collection tank and a sump pit on the west side of the building The fire protection system for the building consists of wet-pipe sprinkler system with heat detectors and manual and automatic sprays in the plenum	Asbestos	Asbestos (3, pipe insulation)
B783 & Cooling Towers	Building 783 provides cooling water to Building 779 It is constructed of aluminum, steel, and reinforced concrete There is no fire protection system associated with this facility The cooling towers themselves are constructed of metal and will require minimal deactivation effort	Asbestos	None

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